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whatever is in between. Hosted by Pilkguns.com



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Walther CP2 Match - stability issue

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Walther CP2 Match - stability issue

by **krolik** » Mon Aug 11, 2014 12:54 am



krolik

Posts: 13

Joined: Mon Aug 11, 2014 12:48 am

Contact:

Hi Guys,

This is my first post here but I am heavy user of other forums. Until some time ago I was mainly focusing on HFT and recreational shooting but since few months I am very much into target shooting. Mainly AP.

I own LP10 and few weeks back I acquired CP2 Match.

Hope you can help with the following issue. Forgive long description but I want to give full picture.

I acquired Walther CP2 Match. It was cheap because it had problem that speed was going down from shot to shot and after 20-30 shots pellets were no longer able to leave barrel.

I thought with a design so simple as this there is no space for tricky behaviours. Seems my experience with PCPs of all kind is not enough though. It is my first CO2 powered match gun.

I ordered original parts from Walther and exchanged hammer spring, main valve sealing (6x2 oring on valve pin) and the part on which oring resides. Also valve spring closing the valve pin has been replaced.

Pistol started to behave nicely during shooting sessions. Meaning that when I took it for training it produced nice constant velocities from shot to shot (provided you keep 30-40seconds intervals between shots).

There is still one problem though. Between sessions pistol behaves strange showing very big differences in speeds produced. So lets say I set it on

135m/s. Went for a training at local club - everything works fine.
After couple of days I try it at home and the speed is 120m/s (same conditione as it was set initially). I adjust it to 135m/s again but next time (e.g. countryside trip) it produces 156m/s.
There are also times when hammer spring is not strong enough to open the valve. E.g. last weekend it was considerably hot and valve didnt start working even though I reached the tension of hammer spring where it was no longer possible to cock the gun.

It is all pretty annoying. I thing velocity changes should not be that big.
Something like 10m/s would be acceptable.
Seems that even at same conditions speeds change - e.g. set at home and after few days tested through chrono.

Is this normal behaviour? I dont think so. I know some guys are shooting silhouette with CO2 guns and everything works ok. Even on hot days.

What else can be wrong?

I tried two different tanks. No change in behaviour.

All internals were cleaned and relubed (only lever and hammer mechanism - special minimal viscosity grease). Amount of grease is minimal - if you would take the parts you would not even notice any grease. Just for purpose of corrosion protection. Basically parts are "dry".

I didnt notice any obvious parts wear or damage. I saw much worse internals in PCPs which worked flawlessly.

I am out of ideas. Count on your experience Guys!

All help and comments highly appreciated.

BR
Jaroslaw

by **Rover** » Mon Aug 11, 2014 11:25 am

I have no clue, except to suggest that your cylinder is overfilled. (Note that the gun didn't work when the temperature went up.)

I remember blowing snowflakes out of my CP2 on occasion.

by **krolik** » Mon Aug 11, 2014 11:30 am

Thanks for suggestion Rover. I tried with tanks half filled.
But you inspired me to check one thing. I will come back with the result. In the meantime more comments welcome.



Rover

Posts: 6897
Joined: Sat Nov 15, 2008 1:20 pm
Location: Idaho panhandle
Contact:



krolik

Posts: 13
Joined: Mon Aug 11, 2014 12:48 am
Contact:

possibility?

by [FredB](#) » Mon Aug 11, 2014 4:03 pm



OK, with the caveat that I'm not directly familiar with the CP2 Match, here's a thought. I understand that the CP2 (along with the FWB Model 2) meters the CO2 directly from the cylinder, and not with an intermediate staging chamber. If the CP2 Match works the same way, then erratic velocities could be caused by problems in the cylinder valve, even if the gun itself is in great shape. I've definitely experienced this with a FWB 2. The seals in the cylinder(s) could be going bad, and/or the valve spring (I think there's a valve spring?) could be weak. The test obviously would be to try the newly rebuilt gun with a newly rebuilt cylinder.

HTH,
FredB

FredB

Posts: [537](#)

Joined: Sun Sep 05, 2004 4:43 pm

Location: Northern California, USA

Contact: [💬](#)



Re: Walther CP2 Match - stability issue

by [krolik](#) » Wed Aug 13, 2014 1:59 am



Thanks for suggestion FredB. I already checked that cylinders were ok. Valves are opening nicely and give nice flow of the gas.

I think I accidentally found the solution. Or I should rather say that it manifested itself in quite interesting way... :)

All of a sudden the lever didn't allow to cock the gun... I was astonished as during overhaul nothing seemed to be wrong...

I took the grip off and removed trigger unit as a first step. Looking into the whole where trigger engages with hammer clarified all the doubts. Hammer was in two pieces. Exactly at the notch where trigger catches the hammer a fatigue fracture has been developed and finally led to full fracture of the hammer through its whole cross-section.

I suspect that the crack existed there long before. It had influenced the stability in two ways:

1. Depending on hammer spring tension the crack was opening by different angles causing different hammer spring tension.
2. Secondly depending on the opening of the fracture hammer was no longer straight. Bent hammer was not able to go swiftly through the hole in the housing and was causing additional, variable friction on the way to valve pin.

Hopefully after I get the replacement hammer everything will work smoothly again.

I guess that until fracture was full one could not notice anything as broken surfaces fit each other very well. If you put the parts together even now it is very difficult to spot where the actual surface of fracture is.

Seems that after so many years of service (original selling date is 1987 so we talk about 27 years) this had to happen. The only pity is that where I leave

krolik

Posts: [13](#)

Joined: Mon Aug 11, 2014 12:48 am

Contact: [💬](#)

the replacement hammer costs approx. 45\$ plus shipping which makes more than 20% of the gun value... Damn.

Thanks for all the suggestions and interest in this issue. Seems I will visit this forum more often and try to share my experience also. I do a lot of repair work on all kinds of airguns so I think I know a bit about the subject.

All the best,
Jaroslaw

Re: Walther CP2 Match - stability issue

by [sammm1](#) » Wed Aug 13, 2014 8:24 am

I have a hard time finding spare parts for cp2/cp3 in the US. Could you give me a contact to get spare parts, thanks very much.
Sam



[sammm1](#)

Posts: 17

Joined: Wed Mar 26, 2014 9:41 am

Contact:

Re: Walther CP2 Match - stability issue

by [krolik](#) » Wed Aug 13, 2014 8:33 am

I wish I could but unfortunately I don't know any place to buy Walther's spares in US. I am from Poland so I will try Walther's service in Germany. I think you should start with a call to local Walther distributor. If you use search and CP2 as a search term on this forum you will get a bunch of service related topics and as far as I remember they point out who to contact best.

Hope I helped a bit.



[krolik](#)

Posts: 13

Joined: Mon Aug 11, 2014 12:48 am

Contact:

Re: Walther CP2 Match - stability issue

by [krolik](#) » Thu Aug 28, 2014 7:25 am

Now it is getting even more interesting.

I received new hammer. On the occasion of replacing it I did full vivisection of the pistol. I checked every part of the valve and action to make sure everything works smoothly. Piece by piece I checked every element for defects and wear. All looks perfect. So I assembled the gun again and... experienced same unstable behavior.

I took half empty tank (to make sure it is not overloaded with CO2) and put on the gun. Set the hammer spring tension to more or less proper position (based on experience) and chrono-ed first shot. It gave approx. 155m/s. Next shot 136m/s, 46m/s then next pellet stayed in the barrel... I even removed dry fire mechanism to take it out of the equation.

I moved the hammer spring setting to higher power a bit. Cocked the gun and it gave 160m/s... Next 130m/s then 140m/s.

All of a sudden I realized that the problem is actually connected with the trigger unit. I stopped touching the setting screw and experimented with



[krolik](#)

Posts: 13

Joined: Mon Aug 11, 2014 12:48 am

Contact:

just the trigger and how much I pull the cocking lever. It seems that when I pull the cocking lever too much to the back the trigger unit somehow lowers hammer speed and creates instability.

During next few minutes I tried the trigger activation with tank taken off and valve taken apart. So basically only forces acting on the hammer and were my hands (from both sides) and trigger unit. It is clear that hammer is sometimes stuck. This is best knowledge I have until now as it was 1:30AM when I discovered this and had to go to bed.

If you have any ideas or encountered similar issue please help me solve this puzzle.

BTW: factory sealed screw in the trigger unit has been tampered with (the one most to the back of the pistol on the bottom of trigger unit). How this one should be set? Currently it is unscrewed to the point where spring which it supports is longest thus excreting lowest possible pressure on the hammer during it's travel.

Trigger is also set to be one stage trigger (second stage disabled by second step reg screw being screwed much more than normally). Should not be an issue as this does not affect interaction with the hammer.

Trigger drawing for reference:
Image

Re: Walther CP2 Match - stability issue

by [rmca](#) » Thu Aug 28, 2014 9:24 am

Have you replaced the hammer spring?
A "tiered" hammer spring would produce the results that you are seeing.
First shot ok, then a decrease in speed.

Hope this helps



[rmca](#)

Posts: [1150](#)

Joined: Sun Nov 04, 2012 12:55 pm

Location: Lisbon, Portugal

Contact: [...](#)

Re: Walther CP2 Match - stability issue

by [krolik](#) » Fri Sep 05, 2014 4:49 am

Some update:

Trigger unit was surely a problem. Hammer catch was not paralel to the housing. Problem was from improper assembly - one side of frame was slightly bent and the perpendicular pin was not installed symmetrically. It is also clear that trigger unit needs to be reinstalled very accurately in its place making sure that rear bolt is symmetrical after frot screws are tightened.

After correcting above it seems that first two-three shots are inconsitent and then pistol is working very good. Might be an issue with hammer spring. I will investigate that when I make sure the behaviour of the pistol is now repeatable and consistent. Just dont want to add to many unknowns to the



[krolik](#)

Posts: [13](#)

Joined: Mon Aug 11, 2014 12:48 am

Contact: [...](#)

equation.

Thanks for suport so far. I will post final results once known.



Re: Walther CP2 Match - stability issue

by [krolik](#) » Thu Sep 18, 2014 1:12 am



[krolik](#)

Posts: [13](#)

Joined: Mon Aug 11, 2014 12:48 am

Contact:

Damn. Still works inonsitently...

Still after analyzing it I am not sure where the problem is. I lost my heart for this gun for a while. I have no more ideas.

It is very clear the problem is connected with some part that can change its behaviour from shot to shoot and influence the power. It can happen quickly and then gun has different but stable power for many shoots. It can also happen slowly and power changes in steps.

Pistol can be stable for quite long and then change behaviour few times in next few shots. I even thought that valve spring is rotating and sometimes locks on valve housing but have no way to check that when valve is assembled...

After so many airguns fixed with success this is one that makes me feel ignorant and hopeless. My hair are getting grey. I think I need to give to someone else to analyze or leave it for some time in the box and come back to it with fresh mind.

I consulted with Walther service but just by symptoms they are not able to help. Unfortunately I come from a country where shooting is not very popular and Walther has no service. Moreover I cannot even count to see their service during competition event as there is no such competitions happening. And sending it abroad does not make economical sense as combined service and shipping cost will exceed CP2 value... Shoudl send it to scrap but:

- I absolutely have to find out what is wrong there no matter what it takes....
- Hey it is a nice gun. It has problems but I wouldnt be able to throw it away...
- Last but not least I already spent so much on parts for it that IT HAS TO WORK.... there is this small devilish detail somewhere which I didnt manage to spot... yet...

Any more ideas welcome. I will test even the dumbest looking ones (OK, with some limitations! ;) - not looking for Darwin award in any way..).

The only thing is, it seems to be a great challenge. No one (including some prominent airgun specialists) was able to give any particular hint. I think one to solve the case (especially remotely) will earn himself the title of Absolute Greatest Airgun Specialists of Our Time!

I will post an official diploma in this topic to the person who will deliver a solution or at least a hint of the solution.

Fame is waiting! Enroll now.



Re: Walther CP2 Match - stability issue

by [northpaw](#) » Fri Sep 19, 2014 6:55 am



[northpaw](#)

Posts: [296](#)

Joined: Fri Dec 13, 2013 9:15 am

Location: Nordrhein-Westfalen

Contact:

Intriguing. Appears your Walther CO2 - CP2M is a stubborn specimen.

The symptoms of the problem:

- The amount of propellant gas released by discharge varies quite a bit.
- The amount of propellant gas decreases (and so does pellet velocity) during an extended string of shots.

Your hammer spring issue is solved, and according to you posts, the hammer sits, and moves, symmetrically relative to the hammer framerecess now?

Your problem could, in my opinion, have three causes:

- The "force" (impact velocity) of the hammer is still variable, cause still undetected .
- The cylindervlve is worn, releasing a variable amount of gas despite invariable impact of hammer. (You have tested valve and gas release, but...)
- The velocity-adjustment screw somehow interferes with the discharge of the gun. The steadily sinking pellet velocity could point to this, I think.

Cylinder not releasing gas at elevated temperatures? Well, if that is not caused by overfilling, then I do not know.

Re: Walther CP2 Match - stability issue

by [krolik](#) » Mon Oct 27, 2014 7:08 am



[krolik](#)

Posts: [13](#)

Joined: Mon Aug 11, 2014 12:48 am

Contact:

Hopefully last update:

After I did whatever possible on trigger side and hammer side the gun worked. It worked as long as you assembled it and fired immediately afterwards. It had very nice consistency and hammer spring regulation screw was almost at the bigining of the thread. One could shot for quite long time and until doing a longer break it was all ok, sometimes except of first shot. The second day however spring never had enough power to open the valve

or the opening was small. From time to time it was unblocking and working well for some shots.

So the valve was the only unknown. I gave it a look again.

Previous owner exchanged the brass oring holder. However it seems it was not the one it should be. It was one of last parts I have not exchanged and as it was not too expensive I decided to change it myself - so I am sure what is inside. On the way it appeared that removal of the brass ring is much more difficult than described by a friend from Walther. Which again makes me think it was not from this model. Disassembly involved Dremel, screwdriver and Dremel gas burner.

No worries - it was all not to do any damage to block not the vice-versa. I made small cuts on the ring that allowed to use screwdriver on it and with some (not excessive) heating it started to move around the axis. With some push from the barrel transfer port side it was possible (damn hard delicate job) to finally remove it.

I discovered some minor scratches after previous attempts and a small debris under it - I don't think it had any big influence but who knows?

Anyway no serious damage to the block means good news.

I reinstalled the brass ring with one sourced directly from Walther. It went in smoothly and I am quite sure it wouldn't be that difficult to simply push it out with a screwdriver if needed. New part was 0,05mm smaller in diameter than the one I took out from the gun. Seems it makes a difference.

I also replaced the oring as previous one got some damage when being removed.

On top of that I again cleaned the surface of the valve cone with very fine steel wool (as previously) and then used polishing paste on top of that. Finally degreased the valve pin and assembled it all together. Seems to work like a dream now.

I know I have changed many things at the same time so we don't know what helped (hopefully as I am still testing - nothing is sure yet). But believe me after looking at it at least thousand times I really have enough. So please keep your fingers crossed. :)

With basically all the interior new and no visible problems it has to work, right? ;)

Re: Walther CP2 Match - stability issue

by [gfrad](#) » Thu Mar 12, 2015 3:23 am

we worked with a few of these pistols in past in Greece Crete Chania shooting range ,we found out the hard way when working with these pistols you must put them in dry fire position before replacing parts or seals in order for gun to function correctly after replacing parts connect co2 cylinder gun should work 100%



[gfrad](#)

Posts: 68

Joined: Thu Feb 26, 2009 12:12 am

Contact: [...](#)

Re: Walther CP2 Match - stability issue



[EdVonSchleck1337](#)

by **EdVonSchleck1337** » Wed Jan 25, 2017 2:53 am

Posts: 2
Joined: Wed Jan 25, 2017 2:41 am
Contact: 

Hey Krolik,

i'm from germany and just bought a used cp3 a few weeks ago. I want to know if the problems you had are still fixed?

Because i have exactly the same problems like you described. I disassembled the gun a dozen times and change orings and cleaned everything.

The problem still exists (sometimes more, sometimes less)

At the moment im pretty sure the valve is the problem. When the gun doesent shoot anymore, i removed the switch for the training mode and pushed the valve through the hole with a screddrive to open the valve litte bit (while co is still connected)

and suddenly the gun is shooting a few times until its stops working again.

At the moment i have the assumption, that the o ring for the valve is not hard enough (i did not use the original walther).

As i see the problem, with soft o ring, the valve pushes to deep in the o ring, that the force of the spring when pulling the trigger is not enough to push it all the way back to open the valve.

I read in another forum, that you need a hard oring with 95 shore hardness:

<http://classicapa.com/viewtopic.php?f=2&t=446&start=10>

i ordered some and i will test it.



Re: Walther CP2 Match - stability issue

by **krolik** » Wed Jan 25, 2017 2:59 am



krolik

Posts: 13
Joined: Mon Aug 11, 2014 12:48 am
Contact: 

Hi Ed,

Unfortunately I dont have that CP any more. When I was selling it I informed the guy it has issue even though now shoots well. I asked him to call me if something goes wrong but he never did so I assume pistol was working for at least couple more weeks.

Honestly except of the wear of the grip bolt and wear of the main valve steam I have no other suspects...

Best,
Jarek

Last edited by **krolik** on Wed Jul 04, 2018 1:04 am, edited 1 time in total.



Re: Walther CP2 Match - stability issue

by **EdVonSchleck1337** » Wed Jul 04, 2018 12:52 am



EdVonSchleck1337

Posts: 2
Joined: Wed Jan 25, 2017 2:41 am
Contact: 

Hi,

the problem is solved for me, after I changed to the original walther O-rings.

I tested several, different material and different hardnesses. But only the original walther worked well.

I contacted them because of the oring material- This is the answer (I hope you understand german :-D

:

Hallo,

die Werkstoff Bezeichnung lautet: P5008 93 Shore

Wenn Sie Probleme mit der Haltbarkeit haben, beachten Sie bitte, dass Sie immer eine Kartusche mit CO2 auf der Waffe haben, dann halten die Dichtungen über Jahre. Sobald Sie die Waffe ohne Kartusche lagern, trocknen die Dichtungen aus und können undicht werden. Diesen Hinweis finden Sie auch in der Bedienungsanleitung unter "Allgemeines" auf Seite 5.

MfG

Werner Hampel
Kundendienst

Regards

Ed

Re: Walther CP2 Match - stability issue

by [krolik](#) » Wed Jul 04, 2018 1:03 am

In my case I had my orings changed to original Walther spares and still had issues. But at least this part was surely ok. :)

BTW: thanks for sharing very useful information. In my case it wouldnt help as it was very specific. But for most other "instability" issues this is the proper answer. :)



krolik

Posts: 13

Joined: Mon Aug 11, 2014 12:48 am

Contact:

Re: Walther CP2 Match - stability issue

by [gfrad](#) » Sun Jul 22, 2018 7:47 am



[gfrad](#)

Posts: [68](#)

Joined: Thu Feb 26, 2009 12:12 am

Contact: [...](#)

Four out of five of our pistols have valve stems tha look like they are frop cp200 models they are not conical they are flat by trying the conical one on the rest of pistols made them work correctly will order new valve stems and post my findings.

i found two conical valve stems and used them on two pistols yesterday they issue is resolved pistols had wrong stem valves .Know i have to find two more conical stems or have machinst make me a couple Walther does not have any in stock



Re: Walther CP2 Match - stability issue

by [gfrad](#) » Mon Aug 20, 2018 11:41 pm



[gfrad](#)

Posts: [68](#)

Joined: Thu Feb 26, 2009 12:12 am

Contact: [...](#)

replaced valve stems with part #266 conical ones all 5 pistols work excellent.four out of five of our pistols had flat valve stems just like ones from cp200 that was our issue



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Re: Walther CP2 Match - stability issue

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